

## WEST Search History

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		<i>DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=ADJ</i>	
<input type="checkbox"/>	L9	L8 and (metal complex)	0
<input type="checkbox"/>	L8	L2 and forming	22
<input type="checkbox"/>	L7	L2 and (metal complex)	0
<input type="checkbox"/>	L6	L2 and subliming	0
<input type="checkbox"/>	L5	L2 same subliming	0
<input type="checkbox"/>	L4	L2 with subliming	0
<input type="checkbox"/>	L3	L2 with (metal complex)	0
<input type="checkbox"/>	L2	(treatment chamber) with vaporizing	48
		<i>DB=PGPB,USPT; PLUR=YES; OP=ADJ</i>	
<input type="checkbox"/>	L1	(6090960 or 20010009154).pn.	2

END OF SEARCH HISTORY

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Search Results - Record(s) 11 through 20 of 22 returned.

☐ 11. Document ID: US 6536133 B1

L8: Entry 11 of 22

File: USPT

Mar 25, 2003

US-PAT-NO: 6536133

DOCUMENT-IDENTIFIER: US 6536133 B1

TITLE: Method and apparatus for drying harvested crops prior to storage

DATE-ISSUED: March 25, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Snaper; Alvin A.	Las Vegas	NV	89107	

US-CL-CURRENT: 34/265; 219/698, 219/730, 219/759, 34/218, 34/373, 34/580, 422/21, 422/22

ABSTRACT:

Reduction of moisture in harvested crop particles. Waste heat from an internal engine carried by a harvester is applied to the crop during the harvesting process. Microwave energy is applied to the crop, concurrently with application of the heat, or separately from it. The objective is to reduce the moisture to a level acceptable to a storage facility, or at least to reduce the cost of further reduction.

17 Claims, 5 Drawing figures

Exemplary Claim Number: 11

Number of Drawing Sheets: 3

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	NUMC	DRAW D
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☐ 12. Document ID: US 6190459 B1

L8: Entry 12 of 22

File: USPT

Feb 20, 2001

US-PAT-NO: 6190459

DOCUMENT-IDENTIFIER: US 6190459 B1

**\*\* See image for Certificate of Correction \*\***

TITLE: Gas treatment apparatus

DATE-ISSUED: February 20, 2001

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Takeshita; Kazuhiro	Kumamoto			JP
Nagashima; Shinji	Kumamoto-ken			JP
Mizutani; Yoji	Kawasaki			JP
Katayama; Kyoshige	Kumamoto			JP

US-CL-CURRENT: 118/715

## ABSTRACT:

A gas flow regulating surface portion 37a is the farthest from the front surface of a wafer W in the middle between a peripheral portion of the wafer W and a center portion of a sealing vessel. The gas flow regulating portion 37a protrudes to the front surface of the wafer W in the vicinity of a center portion that surrounds an exhausting opening 35a. In other words, a convex portion 37c is formed in a peripheral area of the gas flow regulating surface portion 37a that surrounds the exhausting opening 35a. Since treatment gas flows along the front surface of the gas flow regulating portion 37a, treatment gas equally contacts the wafer W in the radius direction of the wafer W. Thus, a film with equal thickness is formed.

13 Claims, 21 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 12

Full	Title	Citation	Front	Review	Classification	Date	Reference				Claims	KWIC	Draws De
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☐ 13. Document ID: US 5539995 A

L8: Entry 13 of 22

File: USPT

Jul 30, 1996

US-PAT-NO: 5539995

DOCUMENT-IDENTIFIER: US 5539995 A

TITLE: Continuous flow vapor dryer system

DATE-ISSUED: July 30, 1996

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bran; Mario E.	Garden Grove	CA		

US-CL-CURRENT: 34/77; 34/470, 34/76

## ABSTRACT:

An apparatus and method for rapidly drying an object, such as a semiconductor wafer, by creating a vapor flow from a liquid, such as isopropyl alcohol, and exposing the object to that flow. The apparatus comprises a heater for vaporizing liquid in a reservoir into a vapor, a condenser for subsequently condensing the

vapor, and a treatment chamber into which the object to be dried is placed. The vaporization of the liquid at the reservoir and its subsequent condensation at the condenser creates a pressure gradient between the heater and the condenser, thereby forming a vapor stream. The object to be dried is exposed to this vapor stream, whereby some of the vapor condenses on the object and combines with the liquid on the object to produce a condensate which flows off the object, thereby drying the object. The method comprises the steps of heating a liquid to form a vapor, condensing the vapor to form a vapor stream, and positioning an object to be dried in the vapor stream.

13 Claims, 5 Drawing figures  
Exemplary Claim Number: 1  
Number of Drawing Sheets: 5

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWAC	Draw D
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☐ 14. Document ID: US 4889642 A

L8: Entry 14 of 22

File: USPT

Dec 26, 1989

US-PAT-NO: 4889642  
DOCUMENT-IDENTIFIER: US 4889642 A

TITLE: Method and filtration apparatus for purifying solvents

DATE-ISSUED: December 26, 1989

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kaiser; Klaus	Neu-Bamberg			DE

US-CL-CURRENT: 210/771; 210/167, 210/186, 210/436, 34/77, 34/78

ABSTRACT:

A method and filtration apparatus for purifying solvents. Impurities present in the solvent are separated out in the filtration apparatus via filtration using at least one filter, through which the solvent flows and upon which the impurities settle as a filter cake. At least prior to the removal of the impurities that form the filter cake from the filtration apparatus, solvent residues present in the filter cake and possibly also in the filter are recovered by evaporation. The solvent residues in the filtration apparatus are vaporized by the action of a hot, gaseous medium that is conveyed first through the filter and only then through the filter cake, i.e. the impurities, in the direction opposite to the direction in which the solvent flowed through the filtration apparatus during the filtration process.

20 Claims, 3 Drawing figures  
Exemplary Claim Number: 1  
Number of Drawing Sheets: 3

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWAC	Draw D
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☐ 15. Document ID: US 4471792 A

L8: Entry 15 of 22

File: USPT

Sep 18, 1984

US-PAT-NO: 4471792

DOCUMENT-IDENTIFIER: US 4471792 A

**\*\* See image for Certificate of Correction \*\***

TITLE: Apparatus for the treatment of articles with a volatile liquid

DATE-ISSUED: September 18, 1984

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Koblenzer; Heinz	Filderstadt			DE

US-CL-CURRENT: 134/83; 134/143

## ABSTRACT:

An apparatus for the treatment of articles especially metal articles with a solvent, e.g. for the degreasing of the articles, comprises an upper chamber in which an article carrier is charged with or discharged from the articles, a lower treatment chamber, and a device for raising and lowering the carrier. The carrier is provided with one or more plates with sealing peripheries engaging sealing collars, at least one of which is located between these chambers to seal the chambers from one another in at least one position of the carrier.

19 Claims, 3 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 2

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KMC	Draw De
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☐ 16. Document ID: US 4353323 A

L8: Entry 16 of 22

File: USPT

Oct 12, 1982

US-PAT-NO: 4353323

DOCUMENT-IDENTIFIER: US 4353323 A

TITLE: Apparatus for the treating of articles

DATE-ISSUED: October 12, 1982

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Koblenzer; Heinz	Filderstadt			DE

US-CL-CURRENT: 118/61; 118/425, 118/428, 118/69, 134/104.4, 134/107, 134/11,  
148/243, 148/248, 427/335

## ABSTRACT:

An apparatus for treating articles with a solvent, a solvent-containing liquid such as a lacquer, or with solvent vapors, comprises an open treating vessel provided with a device for raising and lowering the articles in the vessel and a heating unit at the bottom of the vessel for heating solvent therein. Around the wall of the vessel, above the bottom thereof, cooling tubes are provided which are connected to the cold branch of a heat pump so as to condense solvent vapors which can collect in a trough below these tubes and can be returned to a compartment of the vessel adjacent the treating compartment. The hot branch of the heat pump is connected via a heat exchanger to a water boiler and heat storage tank and the heater is connected to this boiler by a pump controlled by a control device responsive to the raising and lowering of the articles.

6 Claims, 1 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw De
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☐ 17. Document ID: JP 2001355069 A

L8: Entry 17 of 22

File: JPAB

Dec 25, 2001

PUB-NO: JP02001355069A

DOCUMENT-IDENTIFIER: JP 2001355069 A

TITLE: METHOD AND APPARATUS FOR FORMING COPPER THIN FILM

PUBN-DATE: December 25, 2001

## INVENTOR-INFORMATION:

NAME

COUNTRY

CHO, BINKEN

AKIYAMA, SUSUMU

SEKIGUCHI, ATSUSHI

INT-CL (IPC): C23 C 16/18; H01 L 21/285

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw De
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☐ 18. Document ID: JP 09041128 A

L8: Entry 18 of 22

File: JPAB

Feb 10, 1997

PUB-NO: JP409041128A

DOCUMENT-IDENTIFIER: JP 09041128 A

TITLE: VAPORIZING SOURCE FOR ORGANIC COMPOUND

PUBN-DATE: February 10, 1997

## INVENTOR-INFORMATION:

NAME

COUNTRY

IIJIMA, MASAYUKI

INT-CL (IPC): C23 C 14/24; C23 C 14/12

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw D
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☐ 19. Document ID: US 2414294 A

L8: Entry 19 of 22

File: USOC

Jan 14, 1947

US-PAT-NO: 2414294

DOCUMENT-IDENTIFIER: US 2414294 A

TITLE: Production of pure tellurium

DATE-ISSUED: January 14, 1947

INVENTOR-NAME: DANIEL GARDNER

US-CL-CURRENT: 23/293S; 23/293R

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw D
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☐ 20. Document ID: US 2323194 A

L8: Entry 20 of 22

File: USOC

Jun 29, 1943

US-PAT-NO: 2323194

DOCUMENT-IDENTIFIER: US 2323194 A

TITLE: Apparatus for the production of pulp from cellulosic material

DATE-ISSUED: June 29, 1943

INVENTOR-NAME: BROOKES BEVERIDGE JAMES; KEHOE RICHARD D

US-CL-CURRENT: 162/236

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw D
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Term	Documents
FORMING	5238641
FORMINGS	616

(2 AND FORMING).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	22
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☐ 1. Document ID: US 20050000796 A1

L8: Entry 1 of 22

File: PGPB

Jan 6, 2005

PGPUB-DOCUMENT-NUMBER: 20050000796

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20050000796 A1

TITLE: Method for the manufacture of an article and an article

PUBLICATION-DATE: January 6, 2005

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
van der Kolk, Gerrit-Jan	Maatheeze	NC	NL	
Hurkmans, Antonius P.A.	Taylorville		US	
Strondl, Christian G.C.	Venlo		NL	

US-CL-CURRENT: 204/192.38; 204/192.16

## ABSTRACT:

A method for the manufacture of an article having first and second surface regions of different coefficients of friction in a treatment chamber with a rotary support for the articles and capable of simultaneously carrying out at least two PVD coating processes. The first PVD coating process is carried out with a comparatively directed vapor flux from one or more targets which can compose one or more of the elements B, Si, Ti, V, Cr, Zr, Nb, Mo, Hf, Ta and W, carbides of these elements and carbon. A second PVD coating process is carried out with a comparatively less directed or non-directed vapor flux of carbon.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Dg
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☐ 2. Document ID: US 20040115951 A1

L8: Entry 2 of 22

File: PGPB

Jun 17, 2004

PGPUB-DOCUMENT-NUMBER: 20040115951

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040115951 A1

TITLE: Cleaning method for substrate treatment device and substrate treatment device

PUBLICATION-DATE: June 17, 2004

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Oshima, Yasuhiro	Nirasaki-shi		JP	

US-CL-CURRENT: 438/751

## ABSTRACT:

A cleaning gas that is obtained by vaporizing a carboxylic acid is supplied into a treatment chamber having an insulating substance adhering to the inside thereof, and the inside of the treatment chamber is evacuated. When the cleaning gas supplied into the treatment chamber comes in contact with the insulating substance adhering to an inside wall and a susceptor in the treatment chamber, the insulating substance is turned into a complex, so that the complex of the insulating substance is formed. The complex of the insulating substance is easily vaporized due to its high vapor pressure. The vaporized complex of the insulating substance is discharged out of the treatment chamber by the evacuation.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KIMC	Draw. Da
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☐ 3. Document ID: US 20040045184 A1

L8: Entry 3 of 22

File: PGPB

Mar 11, 2004

PGPUB-DOCUMENT-NUMBER: 20040045184

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040045184 A1

TITLE: Gas treatment apparatus

PUBLICATION-DATE: March 11, 2004

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Takeshita, Kazuhiro	Kumamoto-Shi		JP	
Nagashima, Shinji	Kikuchi-Gun		JP	
Mizutani, Yoji	Kawasaki-Shi		JP	
Katayama, Kyoshige	Kumamoto-Shi		JP	

US-CL-CURRENT: 34/218

## ABSTRACT:

A gas flow regulating surface portion 37a is the farthest from the front surface of a wafer W in the middle between a peripheral portion of the wafer W and a center portion of a sealing vessel. The gas flow regulating portion 37a protrudes to the front surface of the wafer W in the vicinity of a center portion that surrounds an exhausting opening 35a. In other words, a convex portion 37c is formed in a peripheral area of the gas flow regulating surface portion 37a that surrounds the exhausting opening 35a. Since treatment gas flows along the front surface of the

gas flow regulating portion 37a, treatment gas equally contacts the wafer W in the radius direction of the wafer W. Thus, a film with equal thickness is formed.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWNC	Draw D
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☐ 4. Document ID: US 20030046826 A1

L8: Entry 4 of 22

File: PGPB

Mar 13, 2003

PGPUB-DOCUMENT-NUMBER: 20030046826

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030046826 A1

TITLE: METHOD AND APPARATUS FOR DRYING HARVESTED CROPS PRIOR TO STORAGE

PUBLICATION-DATE: March 13, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Snaper, Alvin A.	Las Vegas	NV	US	

US-CL-CURRENT: 34/259

ABSTRACT:

Reduction of moisture in harvested crop particles such as corn and soy beans. Waste heat from an internal engine carried by a harvester is applied to the crop during the harvesting process. Microwave energy is optionally applied to the crop, concurrently with application of the heat, or separately from it. The objective is to reduce the moisture to a level acceptable to a storage facility, or at least to reduce the cost of further reduction.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWNC	Draw D
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☐ 5. Document ID: US 20020182448 A1

L8: Entry 5 of 22

File: PGPB

Dec 5, 2002

PGPUB-DOCUMENT-NUMBER: 20020182448

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020182448 A1

TITLE: Method for the manufacture of an article and an article

PUBLICATION-DATE: December 5, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
van der Kolk, Gerrit Jan	RG Maarheeze	NC	NL	
Hurkmans, Antonius P.A.	Taylorsville		US	

Strondl, Christian G.C.

CM Venlo

NL

US-CL-CURRENT: 428/698; 428/336, 428/704

## ABSTRACT:

A method for the manufacture of an article having first and second surface regions of different coefficients of friction in a treatment chamber with a rotary support for the articles and capable of simultaneously carrying out at least two PVD coating processes. The first PVD coating process is carried out with a comparatively directed vapor flux from one or more targets which can compose one or more of the elements B, Si, Ti, V, Cr, Zr, Nb, Mo, Hf, Ta and W, carbides of these elements and carbon. A second PVD coating process is carried out with a comparatively less directed or non-directed vapor flux of carbon.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw D
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☐ 6. Document ID: US 20010000198 A1

L8: Entry 6 of 22

File: PGPB

Apr 12, 2001

PGPUB-DOCUMENT-NUMBER: 20010000198

PGPUB-FILING-TYPE: new-utility

DOCUMENT-IDENTIFIER: US 20010000198 A1

TITLE: Gas treatment apparatus

PUBLICATION-DATE: April 12, 2001

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Takeshita, Kazuhiro	Kumamoto-shi		JP	
Nagashima, Shinji	Kumamoto-ken		JP	
Mizutani, Yoji	Kawasaki-shi		JP	
Katayama, Kyoshige	Kumamoto-shi		JP	

US-CL-CURRENT: 118/715; 118/716

## ABSTRACT:

A gas flow regulating surface portion 37a is the farthest from the front surface of a wafer W in the middle between a peripheral portion of the wafer W and a center portion of a sealing vessel. The gas flow regulating portion 37a protrudes to the front surface of the wafer W in the vicinity of a center portion that surrounds an exhausting opening 35a. In other words, a convex portion 37c is formed in a peripheral area of the gas flow regulating surface portion 37a that surrounds the exhausting opening 35a. Since treatment gas flows along the front surface of the gas flow regulating portion 37a, treatment gas equally contacts the wafer W in the radius direction of the wafer W. Thus, a film with equal thickness is formed.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw D
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☐ 7. Document ID: US 6893964 B2

L8: Entry 7 of 22

File: USPT

May 17, 2005

US-PAT-NO: 6893964

DOCUMENT-IDENTIFIER: US 6893964 B2

TITLE: Cleaning method for substrate treatment device and substrate treatment device

DATE-ISSUED: May 17, 2005

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Oshima; Yasuhiro	Nirasaki			JP

US-CL-CURRENT: 438/680

## ABSTRACT:

A cleaning gas that is obtained by vaporizing a carboxylic acid is supplied into a treatment chamber having an insulating substance adhering to the inside thereof, and the inside of the treatment chamber is evacuated. When the cleaning gas supplied into the treatment chamber comes in contact with the insulating substance adhering to an inside wall and a susceptor in the treatment chamber, the insulating substance is turned into a complex, so that the complex of the insulating substance is formed. The complex of the insulating substance is easily vaporized due to its high vapor pressure. The vaporized complex of the insulating substance is discharged out of the treatment chamber by the evacuation.

9 Claims, 12 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 10

Full	Title	Citation	Front	Review	Classification	Date	Reference				Claims	KMC	Draw. D.
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☐ 8. Document ID: US 6808567 B2

L8: Entry 8 of 22

File: USPT

Oct 26, 2004

US-PAT-NO: 6808567

DOCUMENT-IDENTIFIER: US 6808567 B2

TITLE: Gas treatment apparatus

DATE-ISSUED: October 26, 2004

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Takeshita; Kazuhiro	Kumamoto			JP

Nagashima; Shinji	Kikuchi-gun	JP
Mizutani; Yoji	Kawasaki	JP
Katayama; Kyoshige	Kumamoto	JP

US-CL-CURRENT: 118/715; 118/724, 118/725, 118/726, 34/218

## ABSTRACT:

A gas flow regulating surface portion 37a is the farthest from the front surface of a wafer W in the middle between a peripheral portion of the wafer W and a center portion of a sealing vessel. The gas flow regulating portion 37a protrudes to the front surface of the wafer W in the vicinity of a center portion that surrounds an exhausting opening 35a. In other words, a convex portion 37c is formed in a peripheral area of the gas flow regulating surface portion 37a that surrounds the exhausting opening 35a. Since treatment gas flows along the front surface of the gas flow regulating portion 37a, treatment gas equally contacts the wafer W in the radius direction of the wafer W. Thus, a film with equal thickness is formed.

4 Claims, 21 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 12

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Drawing
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☐ 9. Document ID: US 6767617 B2

L8: Entry 9 of 22

File: USPT

Jul 27, 2004

US-PAT-NO: 6767617

DOCUMENT-IDENTIFIER: US 6767617 B2

TITLE: Method for the manufacture of an article and an article

DATE-ISSUED: July 27, 2004

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
van der Kolk; Gerrit Jan	RG Maarheeze			NL
Hurkmans; Antonius P.A.	Taylorville	NC		
Strondl; Christian G.C.	CM Venlo			NL

US-CL-CURRENT: 428/216; 428/212, 428/336, 428/408, 428/469, 428/472, 428/698, 428/704

## ABSTRACT:

A method for the manufacture of an article having first and second surface regions of different coefficients of friction in a treatment chamber with a rotary support for the articles and capable of simultaneously carrying out at least two PVD coating processes. The first PVD coating process is carried out with a comparatively directed vapor flux from one or more targets which can compose one or more of the elements B, Si, Ti, V, Cr, Zr, Nb, Mo, Hf, Ta and W, carbides of these

elements and carbon. A second PVD coating process is carried out with a comparatively less directed or non-directed vapor flux of carbon.

18 Claims, 13 Drawing figures  
Exemplary Claim Number: 1  
Number of Drawing Sheets: 8

Full	Title	Citation	Front	Review	Classification	Date	Reference		Claims	KWIC	Draw D
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☐ 10. Document ID: US 6660096 B2

L8: Entry 10 of 22

File: USPT

Dec 9, 2003

US-PAT-NO: 6660096  
DOCUMENT-IDENTIFIER: US 6660096 B2

TITLE: Gas treatment apparatus

DATE-ISSUED: December 9, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Takeshita; Kazuhiro	Kumamoto			JP
Nagashima; Shinji	Kumamoto-ken			JP
Mizutani; Yoji	Kawasaki			JP
Katayama; Kyoshige	Kumamoto			JP

US-CL-CURRENT: 118/726; 118/715, 118/724

ABSTRACT:

A gas flow regulating surface portion 37a is the farthest from the front surface of a wafer W in the middle between a peripheral portion of the wafer W and a center portion of a sealing vessel. The gas flow regulating portion 37a protrudes to the front surface of the wafer W in the vicinity of a center portion that surrounds an exhausting opening 35a. In other words, a convex portion 37c is formed in a peripheral area of the gas flow regulating surface portion 37a that surrounds the exhausting opening 35a. Since treatment gas flows along the front surface of the gas flow regulating portion 37a, treatment gas equally contacts the wafer W in the radius direction of the wafer W. Thus, a film with equal thickness is formed.

3 Claims, 21 Drawing figures  
Exemplary Claim Number: 1  
Number of Drawing Sheets: 12

Full	Title	Citation	Front	Review	Classification	Date	Reference		Claims	KWIC	Draw D
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Term	Documents
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FORMINGS	616
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(L2 AND FORMING).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	22

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